

is the reason of the composition by which whiteness was produced in this Experiment, and by what other way soever I made the like composition the result was whiteness.

Lastly, If with the Teeth of a Comb of a due size, the coloured Lights of the two Prisms which fall upon the space P T be alternately intercepted, that space P T, when the motion of the Comb is slow, will always appear coloured, but by accelerating the motion of the Comb so much, that the successive Colours cannot be distinguished from one another, it will appear white.

EXPER. XIV.

Hitherto I have produced whiteness by mixing the Colours of Prisms. If now the Colours of natural Bodies are to be mingled, let Water a little thickned with Soap be agitated to raise a froth, and after that froth has stood a little, there will appear to one that shall view it intently various Colours every where in the surfaces of the several Bubbles; but to one that shall go so far off that he cannot distinguish the Colours from one another, the whole froth will grow white with a perfect whiteness.

EXPER. XV.

Lastly, in attempting to compound a white by mixing the coloured Powders which Painters use, I considered that all coloured Powders do suppress and stop in them a very considerable part of the Light by which they

they are illuminated. For they become coloured by reflecting the Light of their own Colours more copiously, and that of all other Colours more sparingly, and yet they do not reflect the Light of their own Colours so copiously as white Bodies do. If red Lead, for instance, and a white Paper, be placed in the red Light of the coloured Spectrum made in a dark Chamber by the refraction of a Prism, as is described in the third Experiment of the first Book; the Paper will appear more lucid than the red Lead, and therefore reflects the red-making rays more copiously than red Lead doth. And if they be held in the Light of any other Colour, the Light reflected by the Paper will exceed the Light reflected by the red Lead in a much greater proportion. And the like happens in Powders of other Colours. And therefore by mixing such Powders we are not to expect a strong and full white, such as is that of Paper, but some dusky obscure one, such as might arise from a mixture of light and darkness, or from white and black, that is, a grey, or dun, or russet brown, such as are the Colours of a Man's Nail, of a Mouse, of Ashes, of ordinary Stones, of Mortar, of Dust and Dirt in Highways, and the like. And such a dark white I have often produced by mixing coloured Powders. For thus one part of red Lead, and five parts of *Viride Aeris*, composed a dun Colour like that of a Mouse. For these two Colours were severally so compounded of others, that in both together were a mixture of all Colours; and there was less red Lead used than *Viride Aeris*, because of the fulness of its Colour. Again, one part of red Lead, and four parts of blue Bise, composed a dun Colour verging a little to purple, and by adding to this a certain